

Vertical Temperature Distributions in LAPD and 35T Phase 1 &2

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Comments

- These Slides were taken from various data taken during the
 - LAPD Run 2 (partial fill)
 - Full fill data available
 - 35T Phase 1 Run
 - 35T Phase 2 Run
- Raw data (a lot!) is still available, but this is representative of the profiles seen during these runs.

RTD Spooler

- 3 RTDs mounted on printed circuit board.
 - 4 wire interface into Lakeshore 218E 8 channel
- Stepper motor could raise and lower pcb from near top of ullage to near bottom of cryostat.

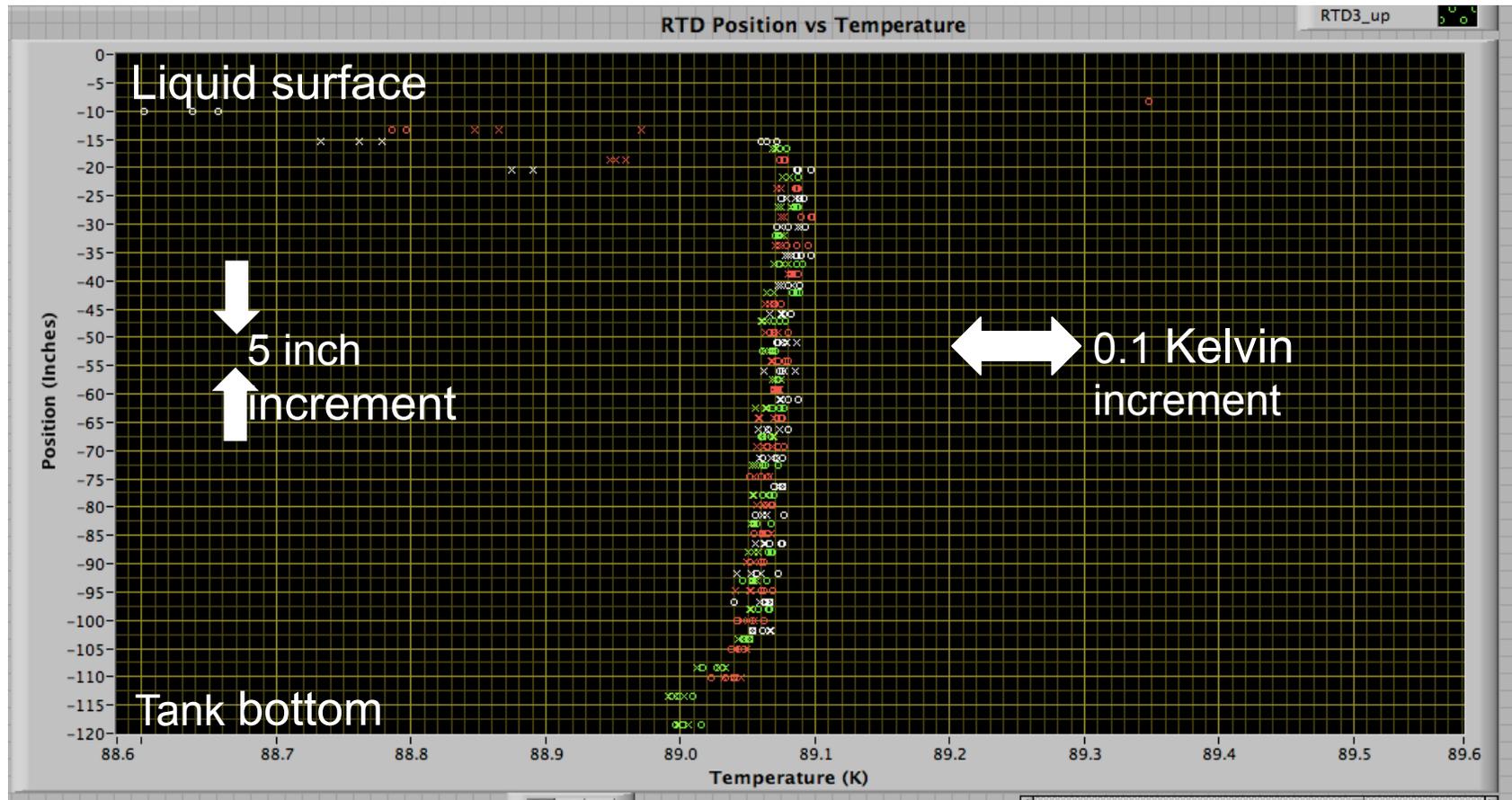
LAPD RTDs



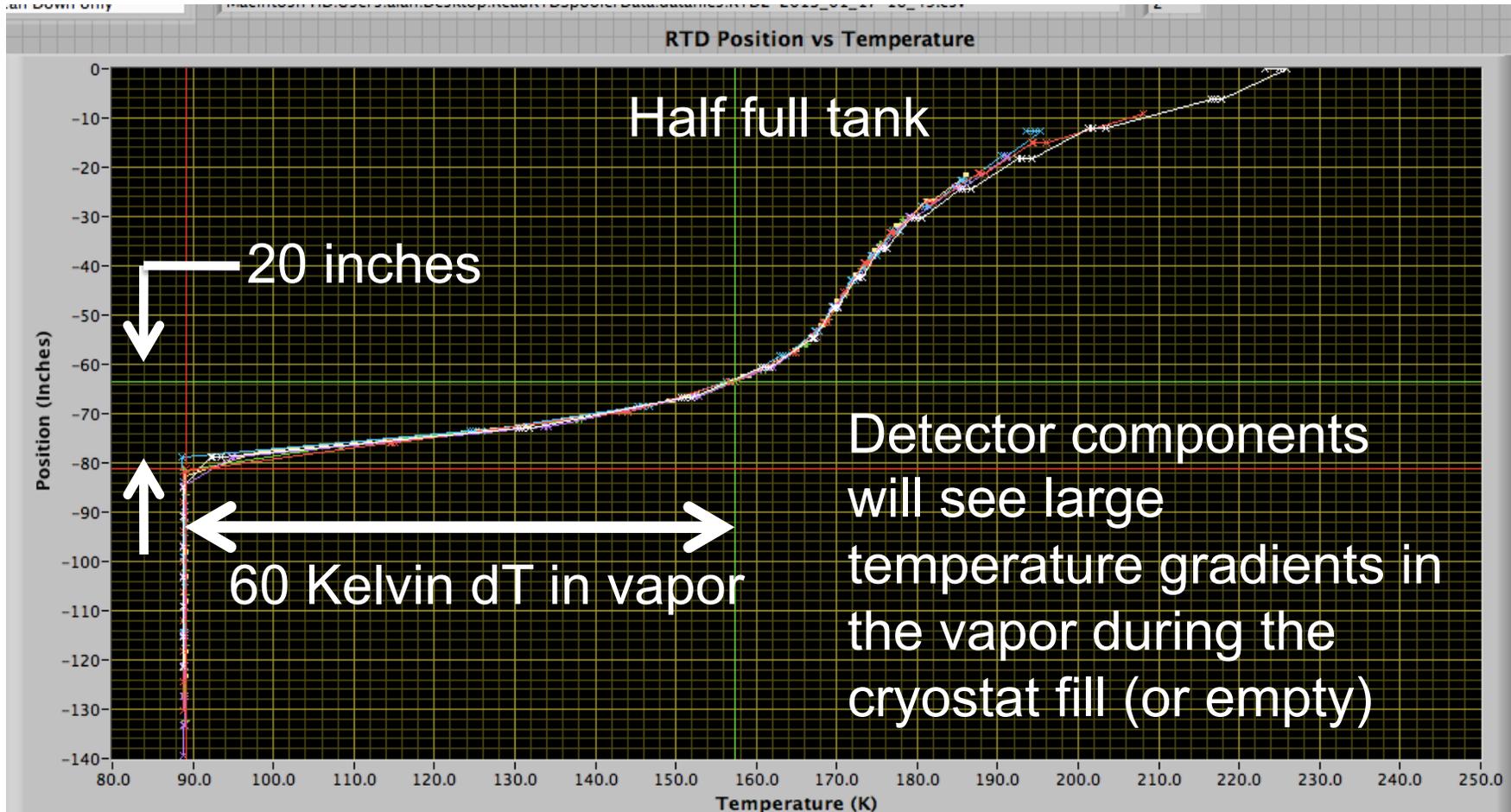
35 T (Phase 1 Run) Spooler

- Biggest change was to weight down the pcb to hang more vertically.
- Otherwise was similar installation to the LAPD Spooler

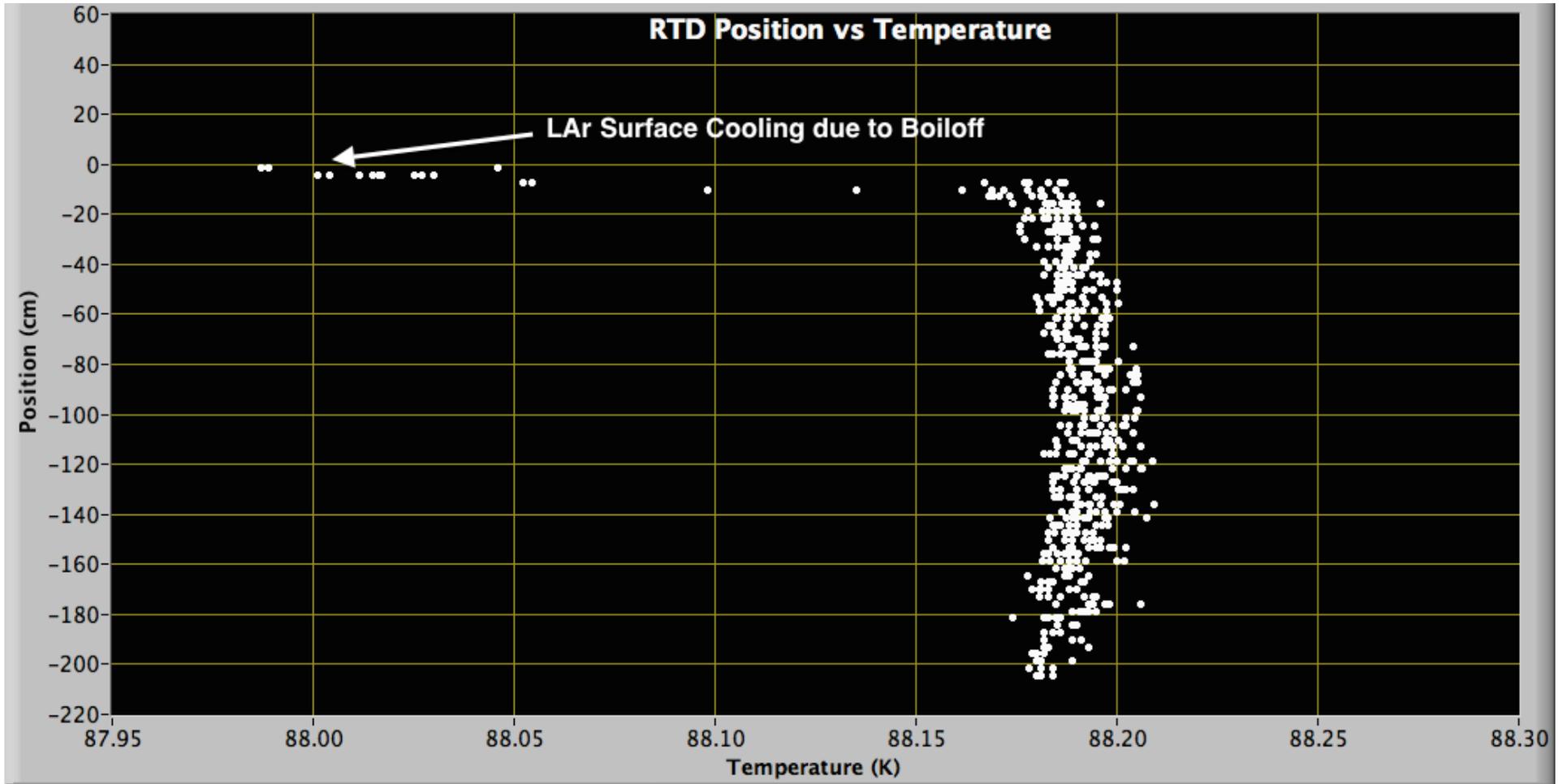
LAPD temperature Profile--liquid



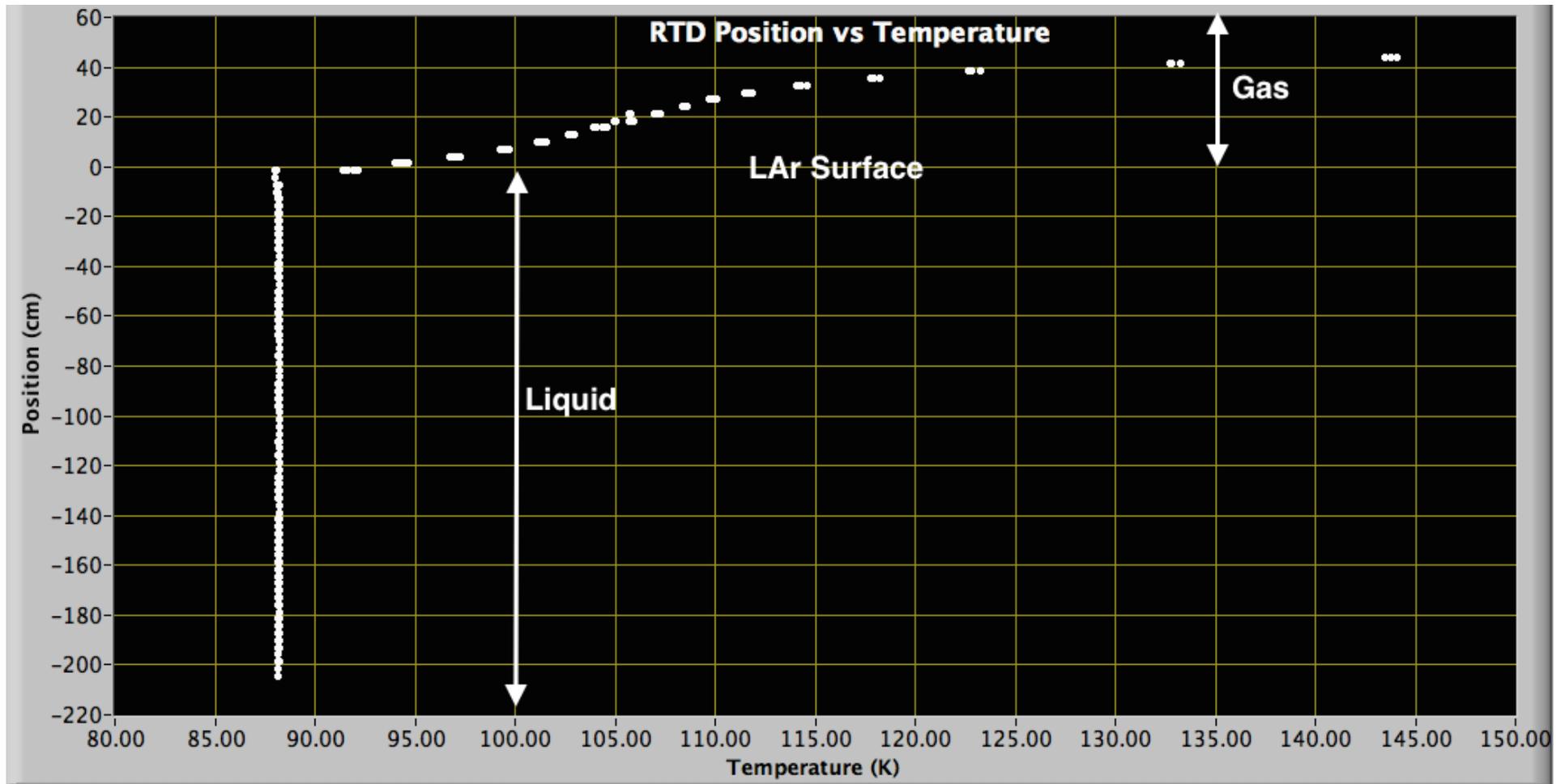
LAPD temperature Profile--liquid



35 Ton Phase 1 Run Liquid T Profile



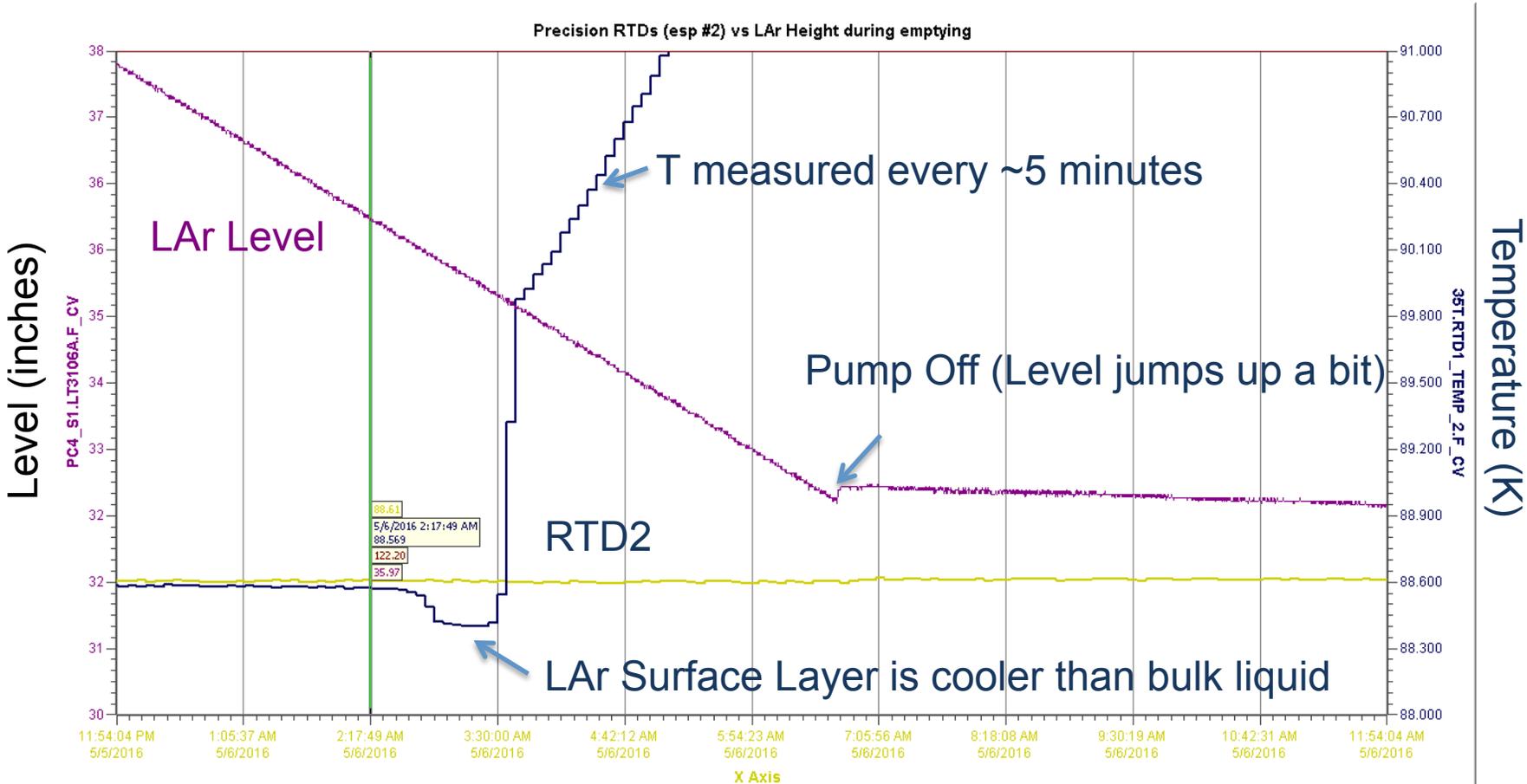
35 Ton Phase 1 Run Full T Profile



35 Ton Phase 2

- No Spooler, but did have 4 RTDs mounted on top of Purity Monitors.
 - One on top of PrM4 had broken wire and didn't work.
- During both filling and emptying, the levels dropped through these RTDs, so we could measure the temperature gradient in the ullage.

RTD2 during emptying



Pen Name	Description	Value	Eng Units	High Over Range	Low Over Range
35T.RTD1_TEMP_1.F_CV	Temperature of the top RTD (#1) on spo...	89	K	89	89
35T.RTD1_TEMP_2.F_CV	Temperature of the middle RTD (#2) on s...	88.569	K	94.210	88.397
35T.RTD1_TEMP_3.F_CV	Temperature of the bottom RTD (#3) on s...	122	K	132	122
PC4_S1.LT3106A.F_CV	LBNE tank liquid level (F_CV)	36	%	38	32

5/6/2016 12:00:51 AM 12 Hours Ago Current 5/6/2016 12:00:51 PM

35T Phase 2

Temperature Profile during emptying
(same data as previous slide, except Plot shows T vs Level (cm))

